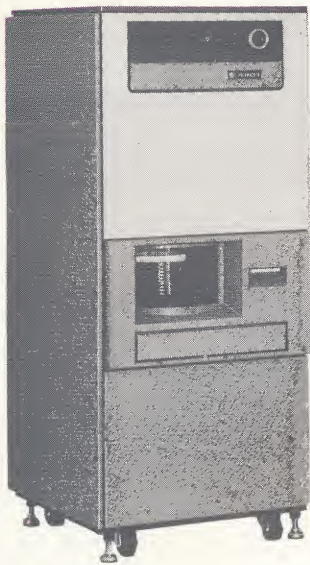
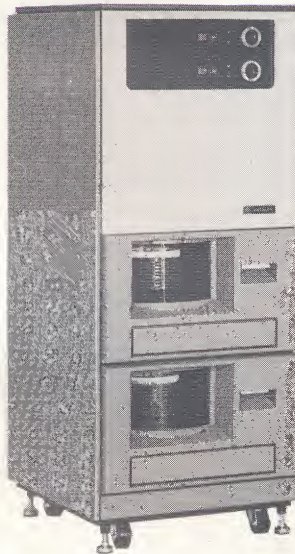


HITACHI Model H-8577I Multi Pack Drive



H-8577I-1
(one module)



H-8577I-2
(two modules)



H-8577I-4
(four modules)

This new H-8577I (consists of H-8577I-1, H-8577I-2, H-8577I-4) Multi-Pack Drive is a random access mass storage device which is plug to plug compatible with IBM 2312, 2318, 2313, Disk Storage unit. This Drive can use either the IBM 2316 Disk Pack as well as H-8561 Disk Pack.

The quality of this Drive is the result of Hitachi's comprehensive technological engineering skill. We take pride in announcing this new product.



SPECIFICATIONS

		H-8577 I-1	H-8577 I-2	H-8577 I-4
NUMBER OF MODULES		1	2	4
CAPACITY	Capacity per Track		7350 bytes	
	Tracks per Cylinder		20	
	Cylinders per Disk Pack		200 (+ 3 Spare)	
	Total Capacity	29.4 M bytes	58.8 M bytes	117.6 M bytes
RECORDING	Mode	Double Frequency		
	Density	2200 BPI (Inner Track)		
	Data Transfer Rate	312000 bits/sec.		
DISKS	Number of Disks	11		
	Usable Disk Surfaces	20		
	Speed	2400 rpm		
	Diameter	14 inches		
	Coating	Magnetic Oxide		
ACCESS TIME	Maximum Positioning Time	130 m/sec.		
	Average	60 m/sec.		
	Track-to-Track	25 m/sec.		
	Average Latency Time	12.5 m/sec.		
TRACK SPACING		0.01 inches		
OPERATING ENVIRONMENTAL CONDITIONS				
		Temperature Conditions		
		60° F ~ 90° F		
		Humidity		
		20% ~ 80%		
ELECTRICAL REQUIREMENT				
		AC 208V ±10%		
		60 Hz ±1/2 Hz 3 φ		
	Primary Power Requirement			
		+36V 3A	6A	12A
		+6V 1.5A	3A	6A
		+3V 0.74A	1.5A	3A
		-3V 0.74A	1.5A	3A
		-36V 0.25A	0.5A	1A
	DC Input Supply Voltage			
	Power Consumptions	0.7 kVA	1.4 kVA	2.8 kVA
HEAT DISSIPATION		2000 BTU/Hr	4000 BTU/Hr	7950 BTU/Hr
DIMENSION				
	Height	65 inches	65 inches	65 inches
	Width	27 inches	27 inches	54 inches
	Depth	32 inches	32 inches	32 inches
WEIGHT		594 lbs	772 lbs	1430 lbs

 **Hitachi, Ltd. Tokyo Japan**

6-2, 2-chome, Otemachi, Chiyoda-ku, Tokyo 100

Telephone: Tokyo (270) 2111

Cable Address: "HITACHY" TOKYO

Telex: TK2395, 2432, 4491

HITACHI Model H-8564I Disk Pack Drive



Hitachi Model H-8564I Disk Pack Drive is plug to plug compatible mass memory with IBM 2311 Disk Storage Drive using removable and interchangeable Disk Pack of H-8563 and IBM 1316 equivalent.

Storage Capacity of the Drive is 7,250,000 bytes, however, almost infinite storage capacity shall be obtained by replacing Disk Packs. The quality of this drive is the result of Hitachi's comprehensive technological engineering skill.



SPECIFICATIONS:

1. Capacity	
Capacity per Track	3,625 bytes
Tracks per Cylinder	10
Cylinder per Disk Pack	200 (+3 spare)
Total Capacity	7,250,000 bytes
2. Recording	
Mode	Double Frequency
Density	1,100 BPI (Inner Track)
Data Transfer Rate	156,000 bytes/s
3. Disks	
Number of Disks	6
Usable Disk Surfaces	10
Speed	2,400 rpm
Diameter	14 inches
Coating	Magnetic Oxide
4. Access Time	
Maximum Positioning Time	135 ms
Average	75 ms
Track-to-Track	25 ms
Average Latency Time	12.5 ms
5. Track Spacing	
	0.01 inch
6. Operating Environmental	
Temperature	60°F~90°F
Humidity	20%~80%
7. Electrical	
Primary Power Requirement	200/208/230/380V $\pm$ 10%
	50/60Hz $\pm$ 1/2 Hz 3 ϕ
DC Input Supply Voltage	-3V
Power Consumptions	1.5 kVA
8. Heat Dissipation	
	2977 BTU/hr (750 kcal/hr)
9. Dimension	
Height	43 inches (1,100 mm)
Width	30 inches (765 mm)
Depth	25 inches (630 mm)
10. Weight	
	480 lbs (220 kg)

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 HITAC 10**Introduction**

HITAC 10 is a general purpose digital computer designed mainly as a systems computer dedicated to real-time data acquisition, reduction and analysis, etc. Also, HITAC 10 is designed as a stand-alone, personal computer for scientific engineering.

HITAC 10 provides low cost and high

performance, portable compact size, flexibility and ease of application.

Input/output facility of HITAC 10 is very flexible, accommodating a wide range of peripheral equipment.

Over 50 instruction repertory and software systems are useful and powerful for general data processing applications.



Features

General

16-bit plus parity, single address, fixed word length.

Fully parallel, two's complement arithmetic.

Basic 4,096 words core memory expandable to 32,768 words (4,096/8,192 words in basic console).

1.4 microseconds memory cycle time.

Desk-top and rack mountable.

TTL integrated circuit.

Over 50 powerful instructions.

Power failure protection.

Page addressing (512 words per page).

Single-level indirect addressing and optional indexing.

Hardware multiply and divide option.

Double-precision arithmetic option.

Input/Output

Up to 64 channels for program controlled I/O bus facility.

Direct memory access standard with one-cycle and three-cycle data break facility.

Program interrupt facility.

Wide range of peripheral devices.

Software

Assemblers and Utility Package

FORTRAN

Calculator

Diagnostics

Specifications

Memory

Memory size : 4,096 words (8,192 words optional in single console) expandable to 32,768 words.

Word length : 16-bit plus parity bit

Cycle time : 1.4 microseconds.

Arithmetic

Parallel, two's complement binary.

Compute speed

Add/Subtract : 2.8 microseconds

Load/Store : 2.8 microseconds

Branch : 1.4 microseconds

Indirect address : 1.4 microseconds

Instruction

Over 50 instructions; Multiply, divide, double-length arithmetic, and index operation are optional.

Input/output capability

Maximum optional multiplexed I/O devices: 64

Standard I/O device

H-9331 Data Typewriter, 10 char/sec.

Physical Specifications

Dimensions*

Height : 11.8 inches (300 mm)

Width : 17.7 inches (450 mm)

Depth : 25.6 inches (650 mm)

Weight*

108 pounds (49 Kg)

Power requirements

Source : 115V $\pm$ 10%, 50 to 60 Hz, single phase

Consumption : 640W

Environmental conditions

Temperature : Operating 5 to 35°C

Humidity : Operating 35 to 85%

Applicable to basic console with all options excluding I/O device.

* Includes Power Supply

Options and Peripherals

HITAC 10 can be connected to various types of input/output equipment and optional features

Options

H-P1610-11 Extended Instruction Option

H-P1610- 2 Peripheral Expansion Mount

H-P1610-21 Memory Expansion

H-P1610-23 Power Failure Option

H-P1610-25 Tape Reader Controller

H-P1610-26 Tape Punch Controller

Peripherals

H-8226-2 High-speed Photo Tape Reader (500 cps)

H-8227-2 High-speed Tape Punch (110 cps)

H-1613-1, 2, 3, 4 On-line Analog Data Processing Equipment.

8 or 16-channel analog inputs, 1-channel AD converter, up to 2-channel DA converter, up to 2-channel digital inputs, and 1, 2 or 4-channel digital outputs

External mass memories and other peripherals are under development.

Software

HITAC 10 is supported by a software package designed for system applications Basic and MACRO Assemblers; FORTRAN, FAP (Floating Arithmetic Package), Subroutines, Debugging Utility, EHS (Extended Hardware Interpreter System), and Calculator. Also these softwares are very useful for general data processing applications.

Basic Assembler (ASSY)

The Basic Assembler is a one-pass assembler which translates symbolic language into standard machine language.

MACRO Assembler (MASS)

The MACRO Assembler is a two-pass, more advanced assembler with the same functions as the Basic Assembler and a capacity to process MACRO instructions specified by users.

FORTRAN

The FORTRAN allows problem descriptions in a mathematical language with a basic 4K core memory.

FAP (Floating Arithmetic Package)

The FAP performs floating point arithmetic operations without specified hardware.

Mathematical Subroutine (single and double precision)

* Multiplication, Division

* Fixed point square root, sine, cosine, arctangent

* Binary to decimal conversion

* Decimal to binary conversion

Debugging Utility

The Debugging Utility offers a set of routines such as memory dump, trace, symbolic editor, etc., useful for debugging programs.

EHS (Extended Hardware Interpreter System)

The EHS is a routine providing the same functions as extended hardware which has instruction options.

Calculator

The Calculator is a conversational desk calculator-type language.



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